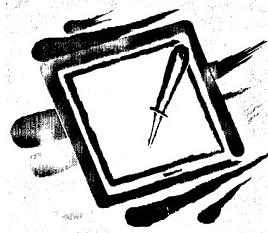


WACOM



Digitizer User's Manual

A3 • A3+ • A4+

**SD-310E
SD-311E
SD-312E**

**SD-320E
SD-321E
SD-322E**

**SD-420E
SD-421E
SD-422E**



Digitizer User's Manual A3+A3+•A4+

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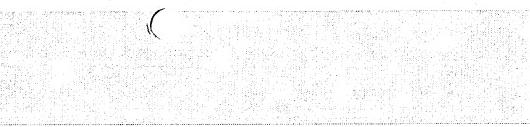
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About the Manuals

This manual presents information on digitizers in general and on the WACOM SD-Series E-Type digitizers in particular with sections on definitions, principles of operation, maintenance, and DIP switch settings.

- For PC installation procedures, see *PC Installation and Utilities Manual*.
- For Macintosh installation procedures, see *Macintosh Installation and Operation Manual*.
- For programming information, see *WACOM Programmer's Manual*.



The WACOM Advantage

1

Great Choice!

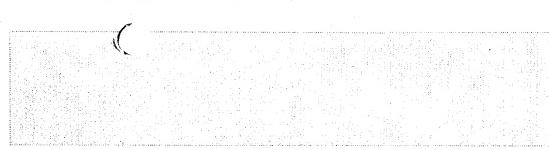
Congratulations on choosing the WACOM (pronounced wah' cum) advantage and welcome to the world of cordless digitizing.

The unique WACOM technology provides a set of selection and drawing tools ergonomically designed to be natural extensions of the hand. They are *cordless*, and free the designer from the interruption of snarled cords. They are *ultra-light*, and use no batteries.

Users can choose from a variety of pointing devices including a four-button cursor, a standard stylus, and the first cordless *pressure* stylus, providing the user with a new dimension of input capability.

WACOM has also developed a tablet surface that simulates a pen-to-paper feel. Thus the drawing tools and tablet provide a more natural and comfortable man-machine interface.

Software	To facilitate installation and use, the WACOM digitizer comes with drivers and utilities and with helpful hints to allow the tablet to be used with most applications which support a pointing device.
Manuals	<p>WACOM publishes several digitizer Manuals:</p> <ul style="list-style-type: none"> • The <i>User's Manual</i> provides information on digitizer components, maintenance, troubleshooting, principles of operation, and DIP switches. • <i>PC Installation and Utilities Manual</i> provides information on drivers and utilities included with the digitizer, and information on using the digitizer in different PC application environments. • <i>Macintosh Driver Installation and Operation Manual</i> extends the WACOM technology to the Macintosh family. • The <i>WACOM Programmer's Manual</i> (available on request) provides software developers the ability to control the flow and format of data by software commands.
Support	WACOM provides telephone support. (See "Troubleshooting.")
Warranty	Warranty information and the license agreement are included in this package.



The Basics

A digitizer is an electronic device that transmits coordinate data to software running on a host computer. Like those shown in Figure 2-A, digitizer components typically include a flat drawing surface called a "tablet," a drawing tool called a "stylus," and a selection tool called a "cursor." The stylus and cursor are referred to generally as "pointing devices."

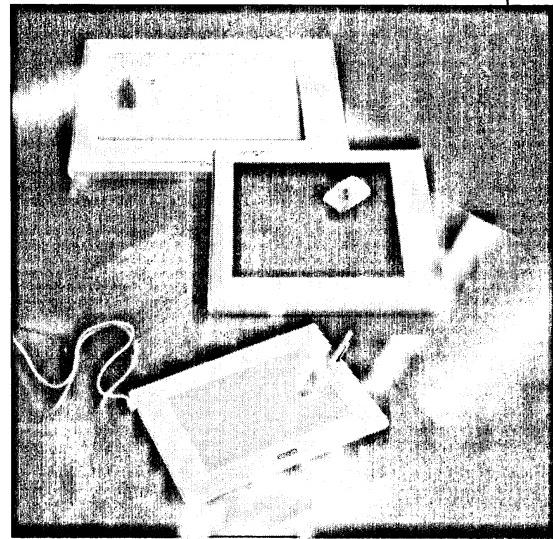


Figure 2-A
WACOM SD-Series Digitizers
Digitizer User's Manual 2-1

2

Definitions

Digitizer size is expressed in terms of *effective area*, which is the part of the tablet surface which can detect the position of pointing devices. *Reading height* is the maximum distance above the surface of the tablet that a pointing device can be detected. When a pointing device is being detected by the tablet it is said to be *in proximity*.

The WACOM Super Digitizers (SD-Series, E-Type) come with an interface cable, drivers, and utilities for IBM PC compatible or for Macintosh computers.

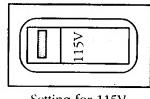
The Tablet

The tablet switches and connections are shown in Figures 2-B, 2-C-a, 2-C-b and 2-E

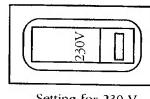
The tablets are available in three surface types shown in Figure 2-D. For other specifications, see Appendix B.

Voltage Selection Switch

A voltage selection switch is located on bottom of the digitizer as shown in Figure 2-B. The internal power supply may be operated at the following voltage.



Setting for 115V



Setting for 230 V

Position	Ranges
115V (110V)100-120 Vac/50-60Hz
230V (220V)200-240 Vac/50-60Hz

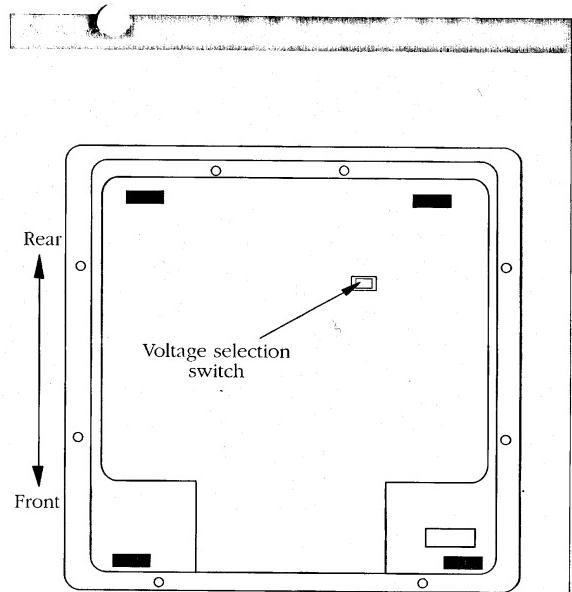


Figure 2-B

Tablet underside

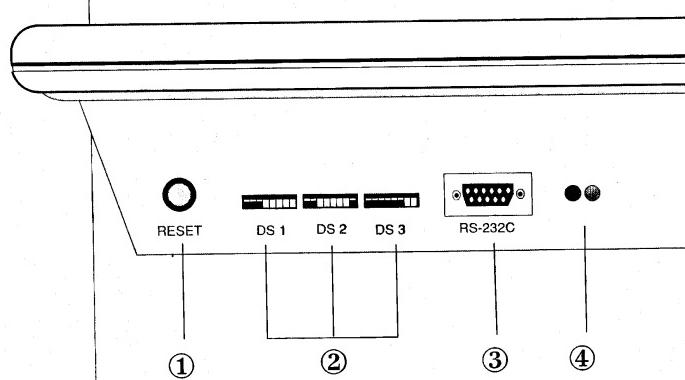
WARNING

**Factory set at 230V
Before using check the voltage selection switch.**

Tablets may be damaged by being used with the voltage selection switch incorrectly positioned.

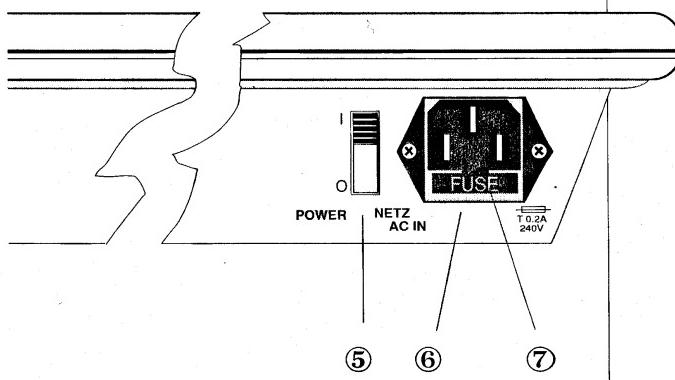
**Voltage
Warnin**

Figure 2-C-a
Tablet Rear View (left side)



- ① RESET Pressing the Reset Button forces the tablet to read the DIP switches
- ② DS 1,2,3 DIP Switch Banks 1,2, and 3
- ③ RS-232C Connection that takes the male end of the interface cable
- ④ ADJUSTMENT TRIMMERS Leave them at factory settings

Figure 2-C-b
Tablet Rear View (right side)



- ⑤ POWER ON / OFF switch
- ⑥ AC IN Connection that takes the female end of the power cable
- ⑦ FUSE HOLDER Holds the active fuse and a spare, located below the AC IN plug

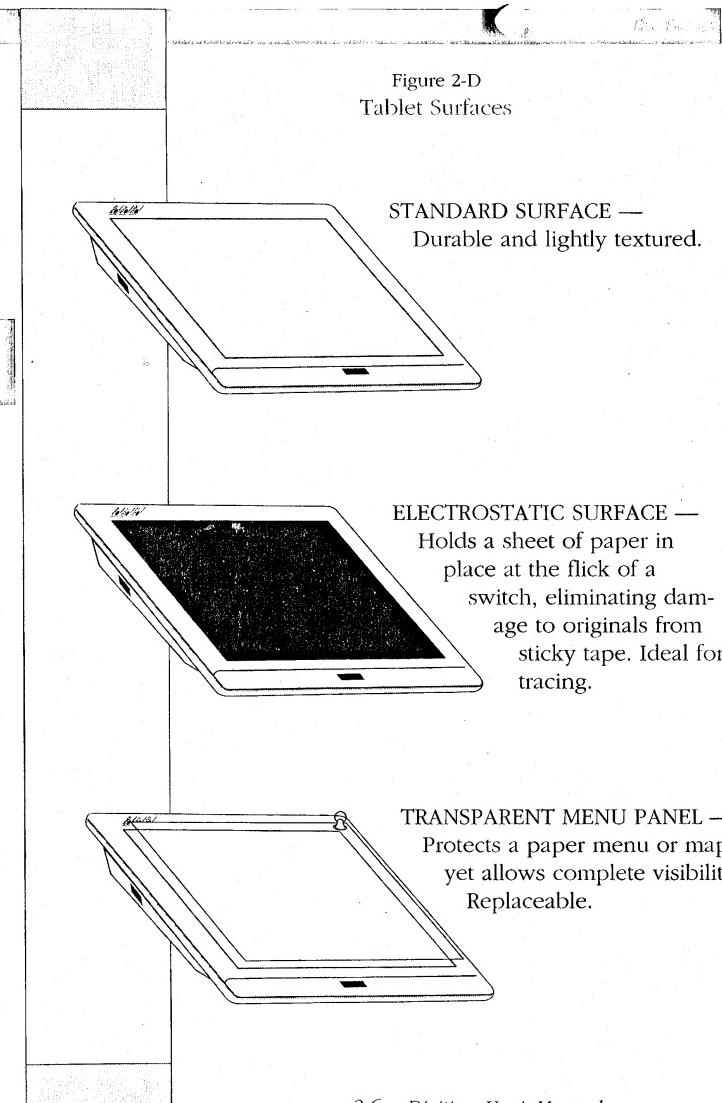
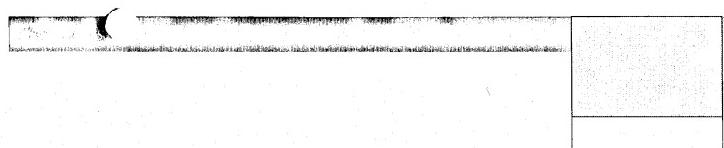


Figure 2-D
Tablet Surfaces

STANDARD SURFACE —
Durable and lightly textured.

ELECTROSTATIC SURFACE —
Holds a sheet of paper in place at the flick of a switch, eliminating damage to originals from sticky tape. Ideal for tracing.

TRANSPARENT MENU PANEL —
Protects a paper menu or map yet allows complete visibility.
Replaceable.

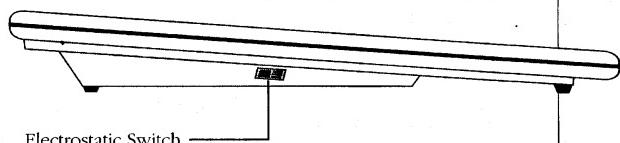


The electrostatic surface holds a sheet of paper in place at the flick of a switch, eliminating damage to originals from sticky tape.

WACOM electrostatic tablets have a black surface, they include models SD-421E, SD-321E and SD-311E.

The electrostatic switch is located on the left side of the tablet.

Figure 2-E
Electrostatic Switch location



Position the original that you want to trace on the tablet, with the electrostatic switch off (0 is off). When your original is correctly positioned turn the electrostatic switch on (1 is on). Your original will adhere to the tablet surface. When finished, turn the electrostatic switch off and remove your original.

To preserve the electrostatic surface, put paper, mylar, or acetate on the active surface of your WACOM Tablet. Writing directly on the electrostatic surface with a stylus may leave scuff marks on the surface. This is normal wear and does not harm the tablet.

Electrostatic Surface

Switch Location

Surface Care

Indicator LEDs

The digitizer has three indicator LEDs (Light-Emitting-Diodes) in the upper left corner of the tablet as shown in figure 2-F below.

POWER Indicator

Shows that the digitizer is connected to the mains and is "powered-up".

READY indicator

Shows that a pointing device is in the effective area of the tablet.

STATUS indicator

Shows that a button has been activated on a non-pressure sensitive pointing device; e.g. normal stylus or cursor.

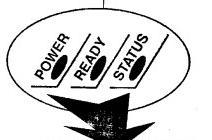
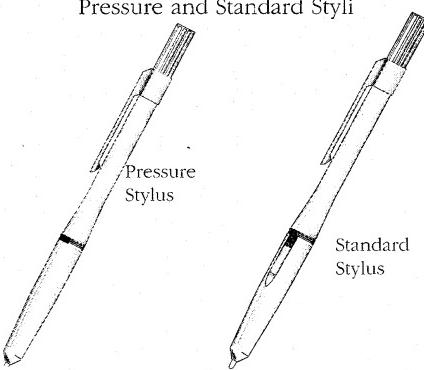


Figure 2-F
Indicator LEDs

Pointing Devices

Figure 2-G
Pressure and Standard Stylus



The WACOM pointing devices are shown in Figures 2-G and 2-H. For specifications, see Appendix B.

The *pressure stylus* has a pressure-sensing tip. Model SP-300 has a firmer feel (0-500 grams pressure) and can be identified by a blue band. Model SP-310 has a softer feel (0-300 grams pressure) and can be identified by a red band.

The *standard stylus* is a pen-like tool with a tip switch, a side or barrel switch, and is available in two models. The SP-200, with a grey band, is a *non-stroke* stylus meaning there is a minimum amount of travel and force needed to close the tip switch. The SP-200 is generally suitable for all applications. The SP-210, with a red band, is a *stroke* stylus meaning there is more travel and force needed to close the tip switch. The SP-210 may be preferred if a 'sure feel' operation is required, for example for CAD menu selections.

The replaceable tip is available in plastic for drawing directly on the tablet or in pen-like colour refills typically used for tracing.



Figure 2-H
Four-Button Cursor

The four-button *cursor* is a mouse-like tool with cross hairs used for making precise selections.

Like a mouse, a pointing device provides input to a host computer.

Unlike a mouse, a cursor or stylus provides both very precise selection and drawing capabilities. A stylus, in particular, is a natural freehand drawing device, like a pencil, and is therefore an ideal design tool for engineers, architects, graphic artists, and desktop publishers.

Unlike a mouse, a digitizer can have a single absolute origin. The advantage from an application standpoint is that the user can define an area on the tablet, as a menu, for example.

There is a direct correspondence between the distances on the tablet and distances on the computer screen. A mouse, on the other hand, creates a new origin with every touchdown.

The digitizer operates according to a set of parameters that the user can define through DIP switches (also changeable through software - see Programmer's manual). The digitizer reads the switches whenever the user turns the tablet on or presses the RESET button. For the location of switches and buttons, see "The Tablet" in this section.

**Like
a Mouse?**

**Unlike
a Mouse!**

**DIP
Switches**

To change a DIP switch setting, use a small tool (such as a tiny screwdriver or ballpoint pen) to flip the switch. Do not use a pencil as the graphite can collect under the switch.

The command set you select (using the appropriate DIP switches) affects the meaning of the remaining DIP switches. Be sure to use the correct DIP switch chart for the command set you are using. For DIP switch defaults, definitions, and options, refer to Appendix A.

¹ "DIP" is an acronym for "Dual-In-line Package" — a type of switch housing that originated with integrated circuits.

Principles of Operation

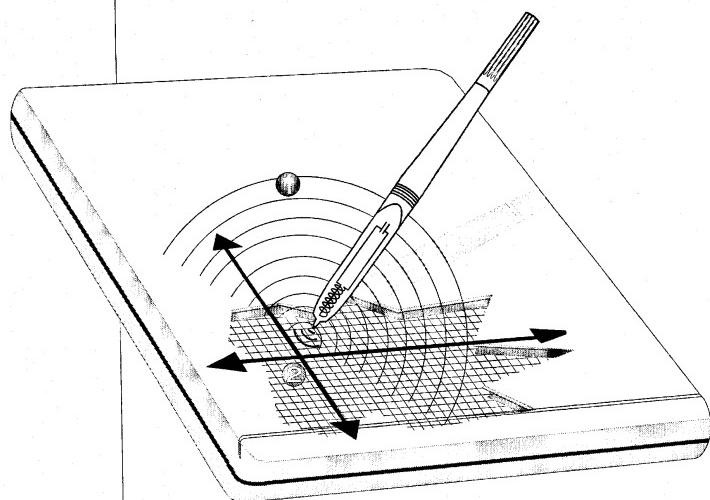
With WACOM's patented technology, the digitizer alternates continuously between transmit and receive modes (changing mode about every 20 microseconds). Refer to Figure 3-A. In transmit mode, the tablet sends a signal at a particular frequency, producing electromagnetic resonance in the pointing device circuit. The pointing device stores the electromagnetic energy in a coil-and-capacitor resonant circuit.

When the tablet goes into receive mode, the pointing device re-emits a signal at a different frequency which carries switch and pressure data to the tablet. The tablet computes the coordinates, based on signal strength, across several grid wires under the tablet surface. The tablet then translates the data to millimetres or inches, ASCII or binary,¹ and sends the data through the serial port to the host.

There is no power source in the pointing devices; calibration and tuning are unnecessary.

¹ Depending on DIP switch settings or programmer instructions

Figure 3-A
The WACOM Technology



- ① TRANSMIT MODE — The tablet sends a signal at frequency A, inducing electromagnetic resonance in the pointing device.
- ② RECEIVE MODE — The pointing device re-emits a signal at frequency B.

Maintenance

Regular cleaning of the digitizer will help prolong its life and requires careful attention. To clean the digitizer, follow these steps:

1. Set the tablet power switch to OFF.
2. Unplug the power cable from the back of the digitizer.
3. Dilute a neutral detergent solution, such as dishwashing liquid, in a bowl of lukewarm water.

Do not clean the digitizer with any volatile liquid like paint thinners, turpentine, or benzene, etc. Such solvents can damage the plastics of the digitizer.

Cleaning

Cautions

Use proper care when working with or storing digitizer components:

- Avoid extreme heat and cold. Do not store components outdoors.
- Do not allow the components to stay in the direct rays of the sun.
- Do not allow any fluids to come into contact with the components, except when cleaning.
- Keep the tablet surface free of dust.
- Do not drop or hit the tablet, cursor, or stylus.
- Do not use any volatile liquid, like paint thinner, turpentine, or benzene, etc. which can damage the plastic surface.

Refills

To replace the refill, follow these steps:

1. Using a tool such as a pair of small pliers or strong tweezers, pull the old refill straight out of the stylus.
2. Insert the new refill straight into the space where the old refill had been.
3. Check to make sure the new tip is firmly in place by holding the stylus vertically and applying firm pressure on the tip.

Refills* for the WACOM styli are available from your local representatives or distributors.

Stylus	Refill type	Ref. No.
STANDARD stylus (SP-200 & SP-210)	Standard Ink, Red	PLD -1
	Ink, Blue	PLD -2BL
	Ink, Black	PLD -2BK
	Ink, empty	PLD -3
	PRESSURE Stylus (SP-300 & SP-310)	Pressure

* The standard refill will not fit in a pressure stylus.

The digitizer fuse is a 5 x 20 mm Slow Blow 0.2 Amp fuse like the Littelfuse® type: 218.200. The rating of the fuse is 250V - 200mA.

Fuses

Fuse replacement (Using the lever)

1. Remove the power cable from the AC IN connector before checking or replacing the fuse.

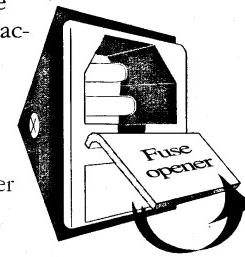


Figure 4-A
Fuse box opener

WARNING

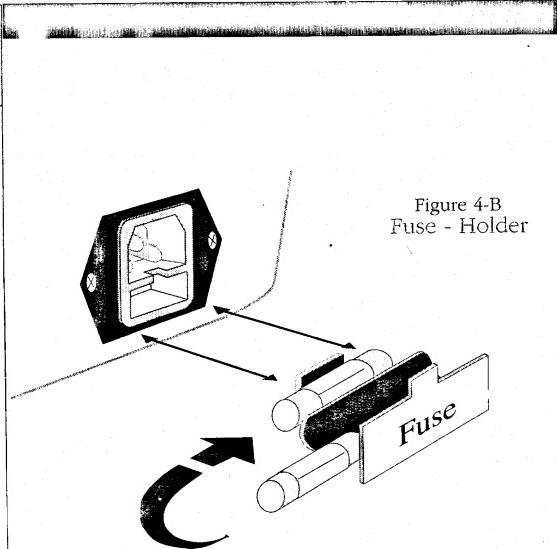


Figure 4-B
Fuse - Holder

2. Remove the fuse holder from AC IN connector using the supplied fuse box opener as shown in figure 4-A. Replace the broken fuse with the spare provided (Figure 4-B).

If the fuse blows again, do not attempt to use a larger value fuse. Contact your sales representative for repair.

To prevent fires or electrical shocks always replace fuses with the same type and rating.

Troubleshooting

1. If your digitizer is not working at all, check the items below:
 - Is the power cable connected?
 - Is the power switch turned on?
 - Is the interface cable between the tablet and the computer connected securely?
 - Check the settings on the DIP switches.
2. If the POWER indicator is off, but the digitizer has power, try replacing the fuse. For instructions, see "Maintenance." If the fuse blows again, contact your WACOM sales representative.
3. To see if there is a problem with the power cable, attach the cable to a component you know to be operational.

5

4. If the host is not receiving signals, make sure there is only one pointing device in the effective area at one time.
5. If you are receiving unusual coordinate data, check to make sure you are using the correct pointing device for the application.

Standard Stylus – Use with non-pressure applications.

Pressure Stylus – Use with applications which support pressure data.

Colour switches and bands are used to identify the different styli. See Appendix B.

The pressure stylus *cannot* be used with MM 961, MM 1201, or Bit Pad Two emulation since these command sets do not support the pressure feature.

To talk with a WACOM technician, call(49) 2131-166001 and ask for Technical Support.

APPENDIX - A

WACOM II and II-S (Factory) DIP Switch Defaults

DS 1

1	2	3	4	5	6	7	8
WACOM II/II-S	ASCII		OPERATION MODE		ORIGIN TYPE		UNIT OF MEASURE
COMMAND SET	DATA FORMAT		Point	Absolute	Millimeters		ALWAYS TRANSMIT
							ON
							OFF

DS 2

1	2	3	4	5	6	7	8
9600 BPS			PARITY		STOP BITS	DSR MONITOR	DATA LENGTH
BAUD RATE			No Parity	1 Stop Bit			8 bits
							ON
							OFF

DS 3

1	2	3	4	5	6	7	8
TRANSFER RATE		ORIGIN LOC	Active	TONE	CR / LF	DATA TERMINATOR	NOT USED
Maximum		Upper left					ON
							OFF
							OFF

— = DIP switch position

A-2

WACOM II and WACOM II-S DIP Switch Options

DS 3

BAUD RATE (bits/sec)	1	2	3	TRANSFER RATE (points/sec)	1	2	3
150	OFF	OFF	OFF	1	OFF	OFF	OFF
300	OFF	ON	ON	5	OFF	OFF	ON
600	OFF	ON	OFF	10	OFF	ON	OFF
1200	OFF	ON	ON	20	OFF	ON	ON
2400	ON	OFF	OFF	50	ON	OFF	OFF
4800	ON	OFF	OFF	67	ON	OFF	ON
9600	ON	ON	OFF	100	ON	ON	OFF
19,200	ON	ON	ON	MAX	ON	ON	ON
PARITY	None	OFF	—	ORIGIN LOCATION	Lower left	Upper left	ON
	Odd	ON	ON				ON
	Even	ON	ON				ON
STOP BITS	1	OFF	ON	TONE	Disabled	Active	ON
	2	ON	ON				ON
OPERATION MODE	4	5	6	DATA TERMINATOR	6	7	8
Point	OFF	OFF	ON	CR	OFF	OFF	OFF
Suppressed	OFF	ON	OFF	LF	OFF	ON	ON
Switch Stream	ON	ON	ON	CR/LF	ON	—	ON
Stream							

DS 1

COMMAND SET	1	2	WACOM II	ON	OFF	ON	OFF
DATA FORMAT	3	4	Binary	OFF	ON	ON	OFF
			ASCII	ON	OFF	OFF	ON
OPERATION MODE	4	5	Point	OFF	OFF	ON	OFF
			Suppressed	OFF	ON	OFF	ON
			Switch Stream	ON	ON	OFF	ON
			Stream	ON	ON	ON	OFF
TRANSFER RATE	6	7	Millimeters	OFF	ON	ON	ON
			Inches	ON	OFF	OFF	ON
ORIGIN LOC	8	9	Always Transmit	OFF	ON	ON	—
			No	ON	OFF	ON	ON
			Yes	ON	ON	ON	OFF
DATA LENGTH	10	11	Mandatory setting	7 bits	8 bits	OFF	ON
						Factory Setting	—

WACOM II and II-S

DIP Switch Definitions

DS 1 DIP Switch(es)

1,2	COMMAND SET	WACOM II and WACOM II Subset (<i>SD-510C only</i>)
3	DATA FORMAT	ASCII or Binary format of the data sent from the digitizer to the host
4,5	OPERATION	Determines the mode in which coordinate data is sent to the host: <ul style="list-style-type: none"> ■ Point Mode Sends one pair of X,Y coordinates with each switch press of the pointing device ■ Suppressed Mode Sends X,Y coordinates only when a "significant" pointing device event occurs. This event could be a: <ul style="list-style-type: none"> • Switch press or release • Entering or leaving the effective area • Change in X or Y greater than a specified value ■ Switch Stream Mode Sends X,Y coordinates continuously while a button or stylus switch is pressed ■ Stream Mode Sends X,Y coordinates continuously

6	ORIGIN TYPE	<ul style="list-style-type: none"> ■ Relative Like a traditional mouse, every touchdown creates a new origin. ■ Absolute The origin is fixed at the location selected with the ORIGIN LOCATION DIP switch.
7	UNIT OF MEASURE	Inches or millimetres. Measurement unit of the data coordinates. See "Resolution" under "General Specifications" in Appendix B.
8	ALWAYS TRANSMIT	<ul style="list-style-type: none"> ■ Yes In stream mode, coordinates will be sent continuously when the pointing device is in or out of the effective area. ■ No In stream mode, no data will be sent to the host when the pointing device is out of the effective area.

WACOM II and II-S DIP Switch Definitions (continued)

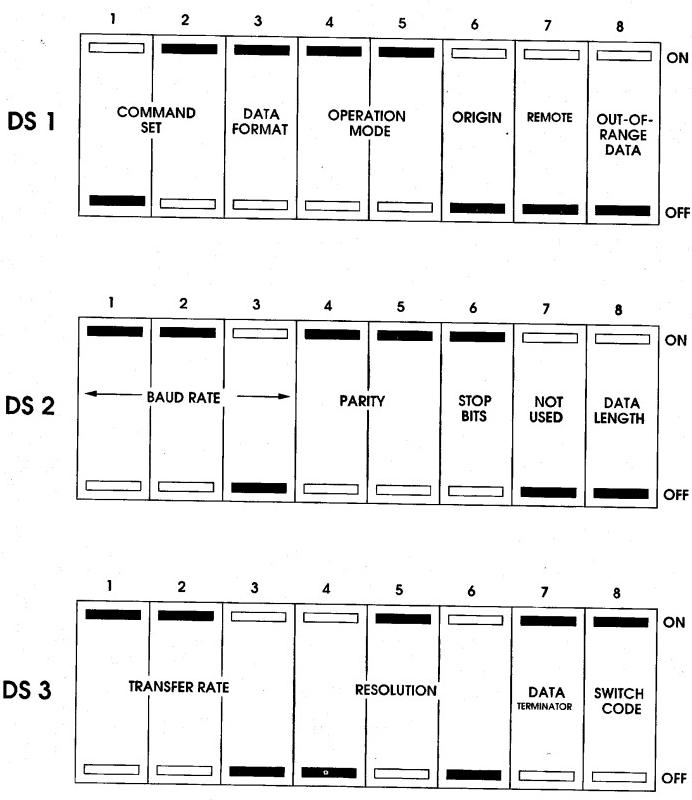
DS 2 DIP Switch(es)

1,2,3 BAUD RATE	150 - 19,200 bps Number of bits transmitted per second from the digitizer to the host. Baud rate for the digitizer and host must be the same.
4,5 PARITY	Parity, a method used to determine if an error occurred in data transmission, can be even, odd, or none. Parity for the digitizer and host must be the same.
6 STOP BITS	Number of stop bits to signal the end of a character. Stop bits for the digitizer and host must be the same.
7 DSR MONITOR	Determines whether or not the tablet responds to the DSR input signal of the RS-232C serial port.
8 DATA LENGTH	The number of bits in a character. Must be the same for digitizer and host.

DS 3 DIP Switch(es)

1,2,3 TRANSFER RATE	Number of coordinate pairs transmitted per second with related switch or pressure data
4 ORIGIN LOCATION	If ORIGIN TYPE is "absolute" (DS 1, switch 6), ORIGIN LOCATION determines whether the origin is in the upper or lower left of the tablet.
5 TONE	Activates or disables audio feedback
6,7 DATA TERMINATOR	A data delimiter — CR/LF, CR, LF. The characters sent to signal the end of an X,Y coordinate pair in ASCII mode data transmission
8 NOT USED	Must be set to OFF (mandatory setting)

Bit Pad Two DIP Switch Defaults



■ = DIP switch position

A-8 Appendix A

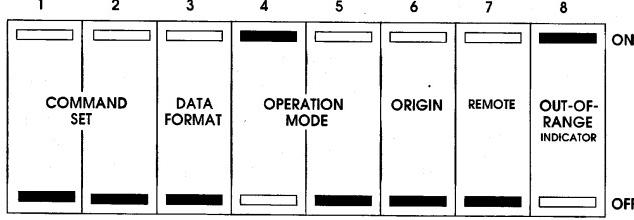
Bit Pad Two DIP Switch Options

DS 1		DS 2		DS 3	
COMMAND SET	1	BAUD RATE (bits/sec)	1	TRANSFER RATE (points/sec)	1
BIT PAD II	OFF	OFF	2	OFF	2
	ON	OFF	3	OFF	3
DATA FORMAT	3	110	4	OFF	OFF
Binary	OFF	150	10	OFF	ON
ASCII	ON	300	20	ON	ON
OPERATION MODE	4	1200	40	ON	ON
Point	OFF	2400	67	OFF	OFF
Switch Stream	ON	4800	ON	ON	ON
	ON	9600	100	ON	ON
	ON	19,200	MAX	ON	ON
TRANSFER RATE	—	ON	ON	ON	ON
RESOLUTION	—	ON	OFF	ON	ON
DATA TERMINATOR	—	ON	ON	ON	ON
SWITCH CODE	—	ON	ON	ON	ON
COMMAND SET	1	PARITY	4	RESOLUTION (lines/inch)	4
BIT PAD II	OFF	None	5	OFF	5
	ON	Odd	6	OFF	OFF
	ON	Even	7	OFF	ON
DATA FORMAT	2	STOP BITS	6	200	200
Binary	ON	1	254	OFF	ON
ASCII	ON	2	400	ON	OFF
OPERATION MODE	3	OFF	508	ON	ON
Point	OFF	ON	508	ON	ON
Switch Stream	ON	ON	ON	ON	ON
TRANSFER RATE	4	DSR MONITOR	7	DATA TERMINATOR	7
BIT PAD II	OFF	NO	CR	CR/LF	OFF
	ON	OFF	ON	ON	ON
DATA LENGTH	8	YES	OUT B (1,2,3,4)	OUT A (1,2,4,8)	OFF
7 bits	—	NO	OFF	ON	ON
8 bits	—	ON	ON	ON	ON

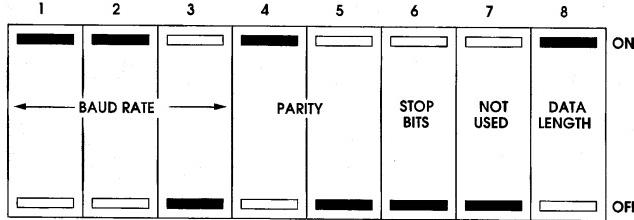
A-9

MM 961 and 1201 DIP Switch Defaults

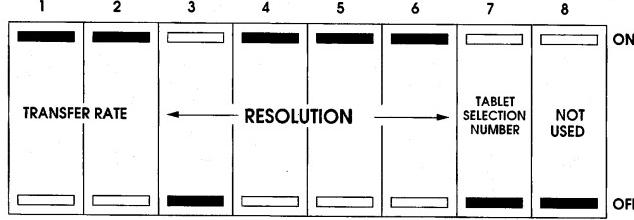
DS 1



DS 2



DS 3



■ = DIP switch position

A-10

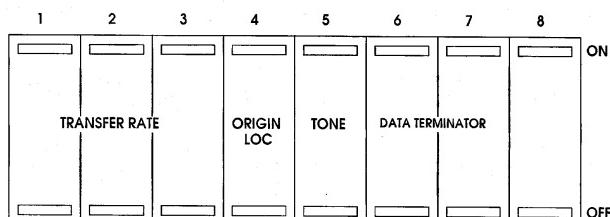
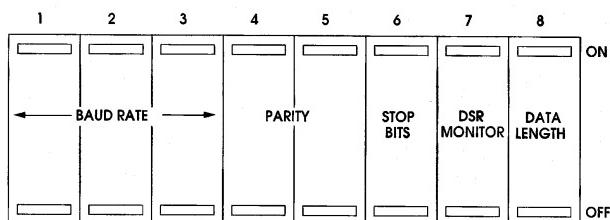
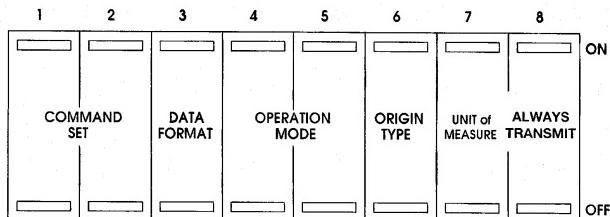
MM 961 and MM 1201 DIP Switch Options

DS 1		DS 2		DS 3	
COMMAND SET	1 MM 1201 OFF	BAUD RATE (bits/sec)	1 150 OFF	TRANSFER RATE (points/sec)	1 2 OFF
	2 Binary ON	2 300 OFF	2 20 OFF	2 50 ON	2 ON
DATA FORMAT	3 ASCII ON	3 600 OFF	3 50 ON	3 100 ON	3 ON
	4 1200 ON	4 1200 OFF	4 100 OFF	4 200 ON	4 ON
	5 2400 ON	5 2400 OFF	5 254 OFF	5 400 ON	5 ON
OPERATION MODE	6 Point Switch Stream OFF	6 9600 ON	6 3 ON	6 4 OFF	6 OFF
	7 Stream ON	7 19200 ON	7 2 OFF	7 200 ON	7 ON
	8 ASCI ON	8 ON	8 100 OFF	8 254 ON	8 ON
PARITY	9 None Odd OFF	9 None Even ON	9 5 ON	9 400 ON	9 ON
	10 Even ON	10 Odd ON	10 500 OFF	10 500 ON	10 ON
ORIGIN TYPE	11 Absolute OFF	11 Relative ON	11 508 OFF	11 508 ON	11 ON
	12 Relative ON	12 Absolute ON	12 ON	12 OFF	12 OFF
REMOTE	13 Disabled OFF	13 Enabled ON	13 1 ON	13 3 ON	13 ON
	14 Enabled ON	14 Disabled OFF	14 2 ON	14 2 ON	14 ON
OUT-OF-RANGE INDICATOR	15 No OFF	15 Yes ON	15 7 OFF	15 7 ON	15 ON
	16 No OFF	16 Yes ON	16 1016 ON	16 1016 ON	16 ON
TABLET SELECTION NUM. 7	17 8 bits OFF	17 8 bits ON	17 8 ON	17 8 ON	17 ON
	18 7 bits ON	18 7 bits ON	18 7 ON	18 7 ON	18 ON
DATA LENGTH	19 8 ON	19 8 ON	19 8 ON	19 8 ON	19 ON
	20 7 bits ON	20 7 bits ON	20 7 ON	20 7 ON	20 ON
TABLET SELECTION NUM. 8	21 8 bits ON	21 8 bits ON	21 8 ON	21 8 ON	21 ON
	22 7 bits ON	22 7 bits ON	22 7 ON	22 7 ON	22 ON
USED	23 No ON	23 Yes ON	23 1 ON	23 1 ON	23 ON

— ON or OFF

User DIP Switch Settings

Use this page to record your configuration.



■ = DIP switch position

APPENDIX - B

Tablet Specifications

	Size	A3	A3+	A4+			
Surface	Plain Electrostatic Transparent	SD-310E SD-311E SD-312E	SD-320E SD-321E SD-322E	SD-420E SD-421E SD-422E			
Effective reading area	(mm)	457.2 x 304.8	381 x 381	304.8 x 304.8			
Accuracy	(mm)	± 0.15mm	± 0.15mm	± 0.15mm			
Maximum reading height	(mm)	Cursor: 8mm, Stylus: 4mm					
Maximum report rate	(Points per second)	205	205	205			
External dimensions	(mm)	582 x 440	528 x 526	420 x 420			
Weight	(Kg)	5.2	5.5	4.0			
Interface	RS-232C						
Command sets	WACOM II, Bit Pad Two, MM						
Operating temperature	5-40°C (41-104°F)						
Storage temperature	-10-60°C (14-140°F)						
Humidity	20% - 80% (non-condensing)						
Power supply	AC 100 - 120V (50/60Hz) AC 220 - 240V (50/60Hz)						

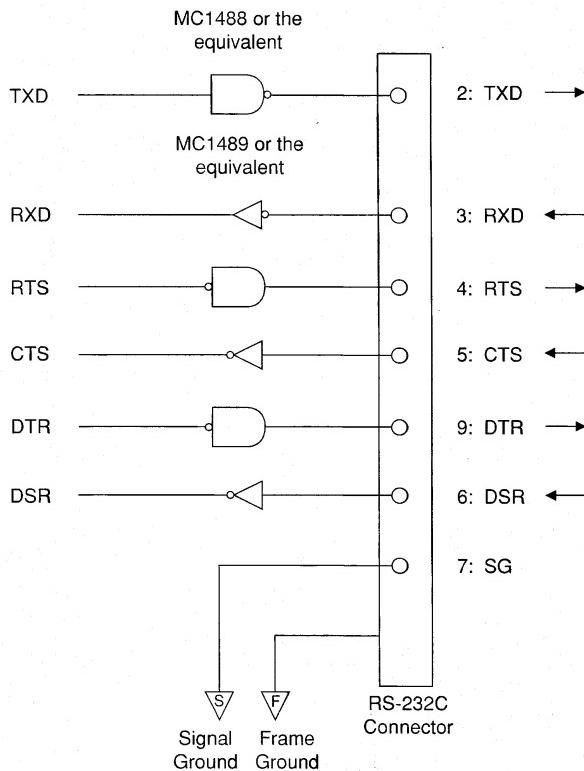
Pointing Device Specifications

Four button Cursor	SC-100	
Size (mm)	55 x 118 x 21	
Weight (grams)	45	
Standard Styli	SP-200	SP-210
Tip Travel	0.2 mm (non-stroke)	0.9 mm(stroke)
Band/Switch Colour	Grey	Red
Switches	Tip and side	Tip and side
Refills*	Duracon or Ink-refill	Duracon or Ink-refill
Size (mm)	11 x 148	11 x 148
Weight (grams)	11	11
Pressure Styli	SP-300	SP-310
Band colour	Blue	Red
Switches	Pressure-sensing tip	Pressure-sensing tip
Pressure (grams)	0-500	0-300
Feel	Firm	Soft
Refill*	Duracon	Duracon
Tip stroke (mm)	1.2	1.2
Size (mm)	11 x 148	11 x 148
Weight (grams)	10	10

*See "Maintenance" for purchase information

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RS-232C Digitizer Circuit



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